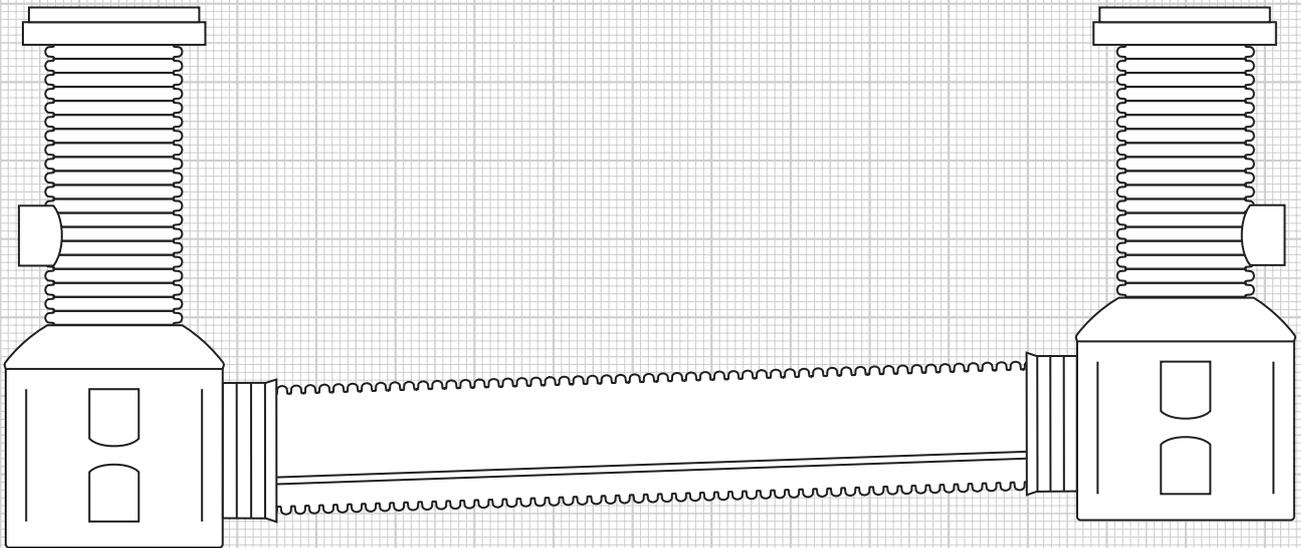


Installation and maintenance manual

SediPipe® level



Stormwater treatment



1 Contact and service



www.fraenkische.com/contact-drainage



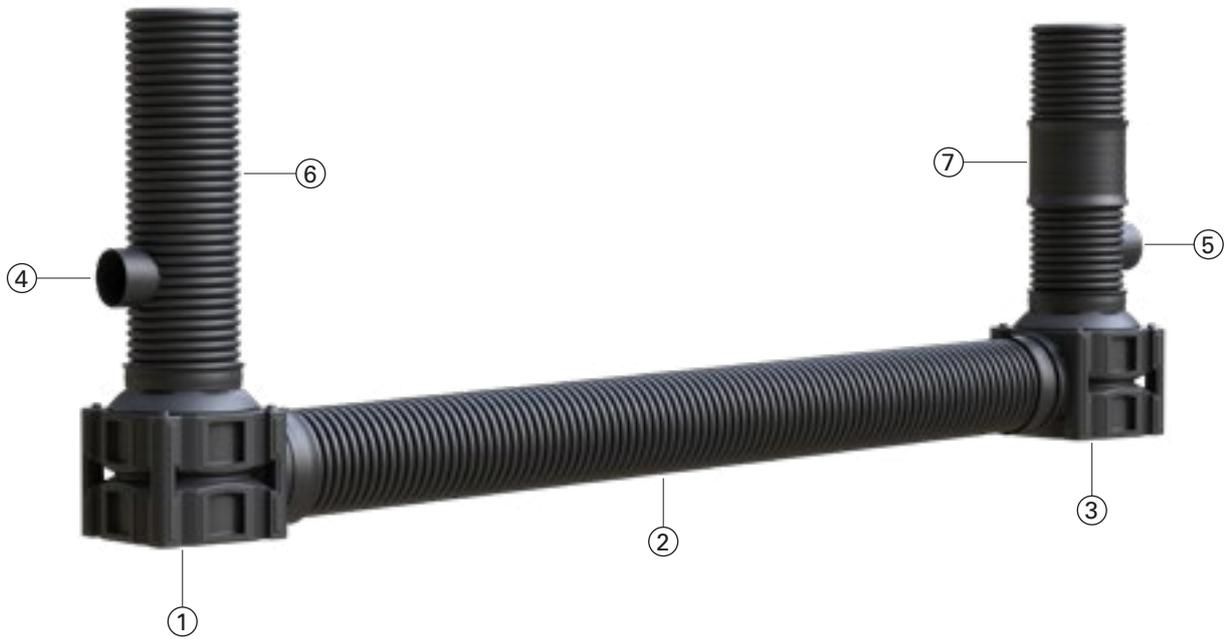
Table of contents

1 Contact and service	2
2 SediPipe® level at a glance	4
3 System description	5
3.1 Application	5
3.2 Function description	5
3.3 SediPipe level system description	6
3.4 Technical data	7
4 Installation	8
4.1.a Overview of installation steps – starting with the start shaft	8
4.1.b Overview of installation steps – starting with the target shaft	9
4.2 Transport and construction site storage	10
4.3 Temporary construction site cover	10
4.4 Excavating pit and creating embedding	11
4.5 Installing the first shaft	11
4.6 Installing the sedimentation path	12
4.7 Installing the second shaft	13
4.8 Installing extension pipes	13
4.9 Tests before backfilling and impermeability test	14
4.10 Lateral and main backfilling	14
4.11 Installing shaft covers	15
4.12 Filling the system	16
4.13 Arrangement of multiple SediPipe level systems	17
4.14 Putting into operation	19
5 Cleaning	20
5.1 Emptying and cleaning the system	20
5.2 Filling the system with water	21
6 Self-inspection and maintenance	22
6.1 General information	22
6.2 Self-inspection	22
6.3 Maintenance	22
6.4 Disposal	23
6.5 Thorough visual inspection	23
7 Overview - Who does what?	24
8 Safety instructions	25

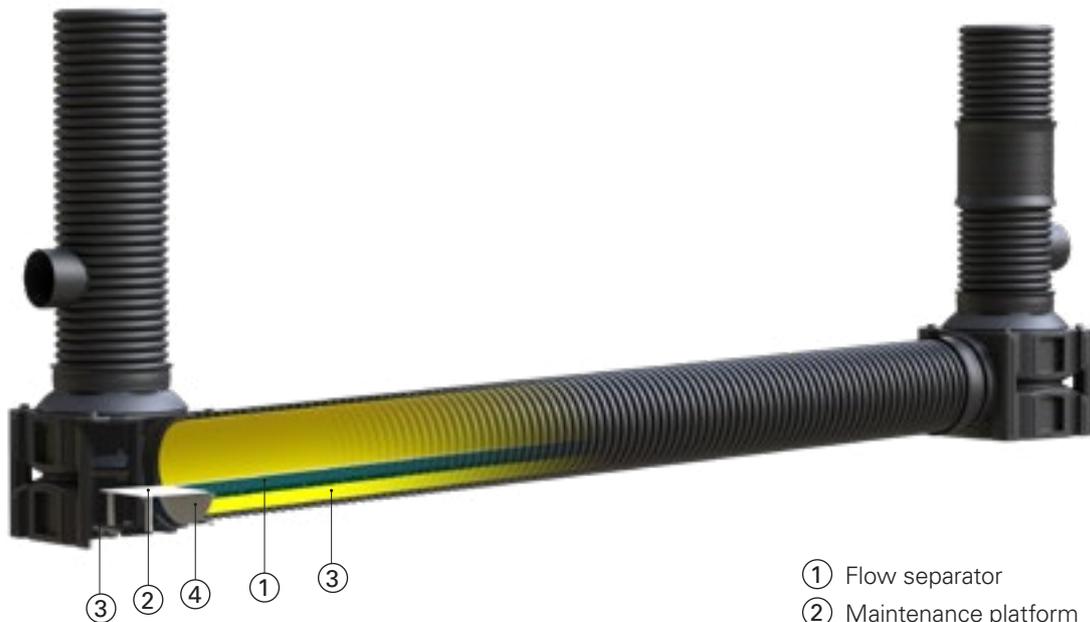
NB

Please read this installation manual carefully and follow our instructions.

2 SediPipe® level at a glance



- ① Start shaft
- ② Sedimentation path
- ③ Target shaft
- ④ Inlet, project-specific
- ⑤ Outlet, project-specific
- ⑥ Extension pipe start shaft DN 500
- ⑦ Extension pipe target shaft DN 500



- ① Flow separator
- ② Maintenance platform
- ③ Mud chamber
- ④ Check valve

3 System description

3.1 Application

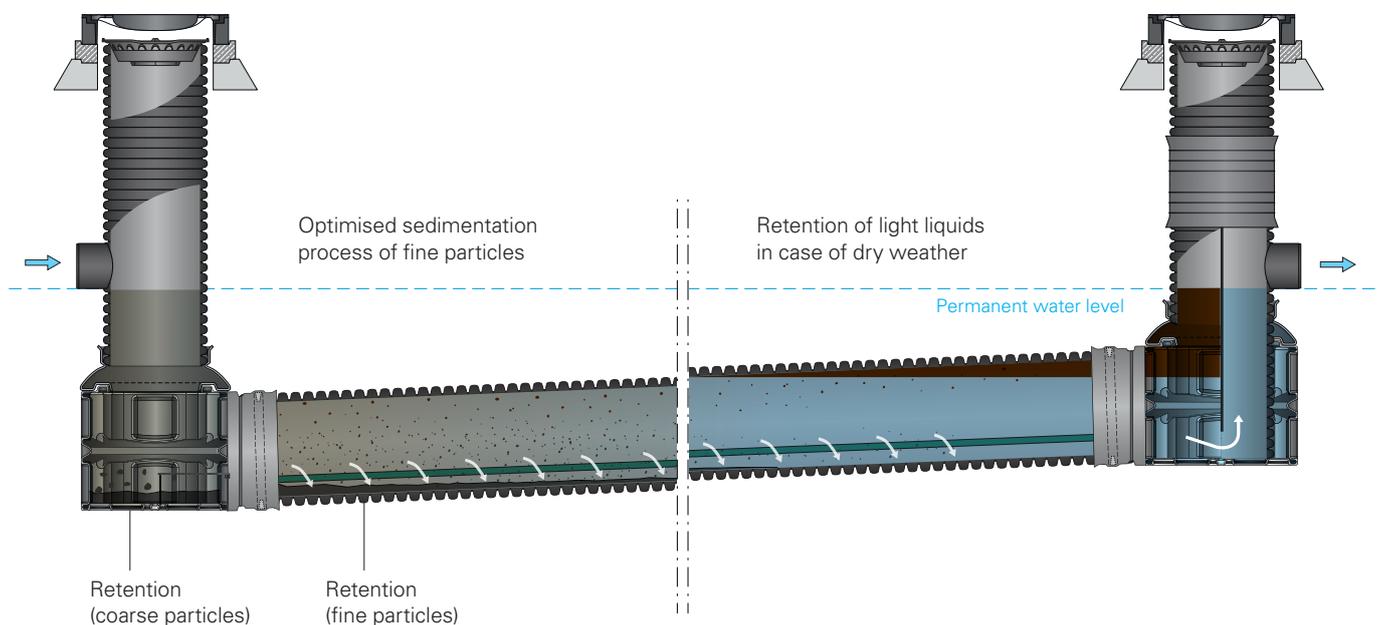
SediPipe level is a stormwater treatment system for polluted stormwater runoff, e.g., from traffic areas. The system separates washed-up solids and light

liquids (oil) from stormwater and reliably retains these materials in the system, even in case of spills in dry weather.

3.2 Function description

SediPipe level is a stormwater treatment system which keeps a permanent water level. Sedimentation initially retains the coarse particles in the start shaft. The downstream sedimentation path retains fine particles. The flow separator prevents

remobilisation and therefore discharge of sediment during heavy rain. The immersion wall in the target shaft retains fuel and oil in the system in case of spills.

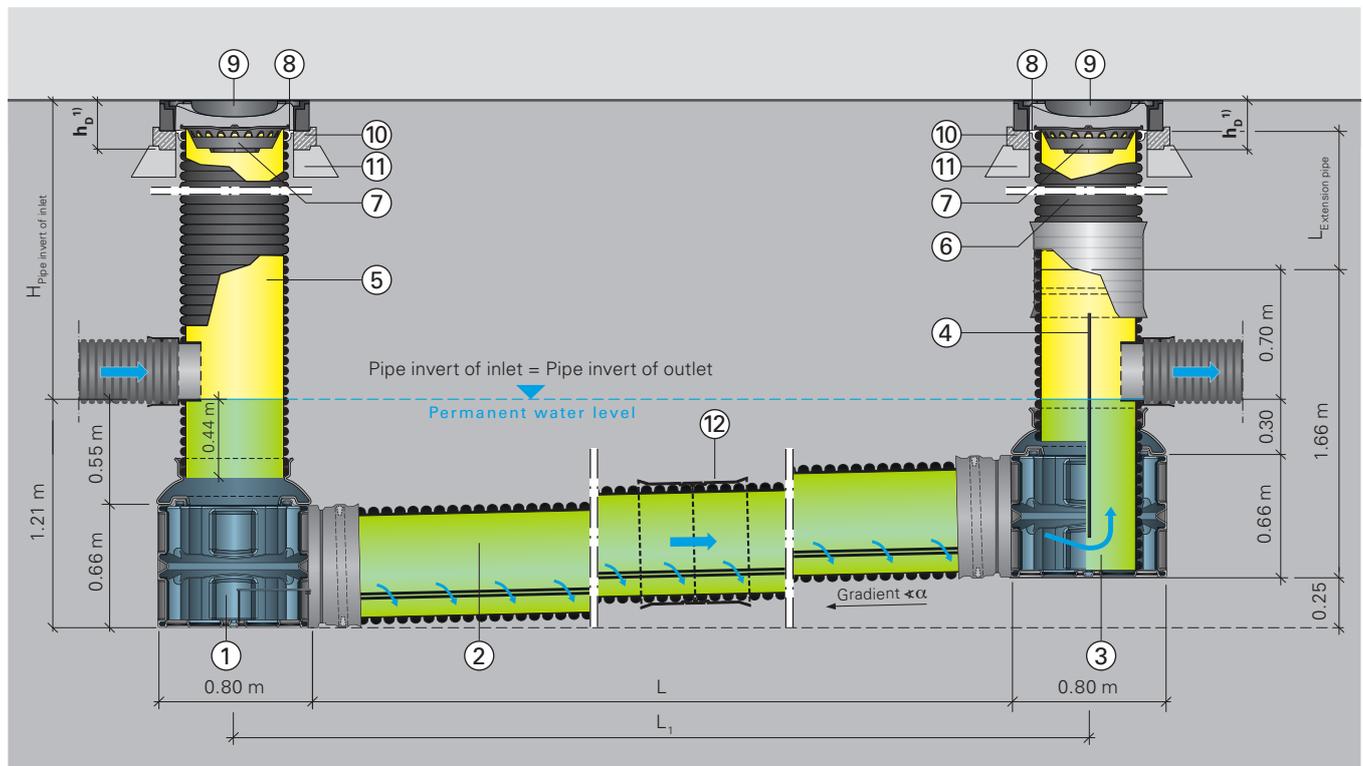


3.3 SediPipe level system description

SediPipe level systems have been designed for different applications. In addition to being installed upstream of a waterbody, this system can also be installed upstream of a Rigofill inspect storage/infiltration system or a pipe swale. The significant characteristic of SediPipe level is its same-level inlet and outlet allowing for very shallow installation depths.

SediPipe level comprises a start shaft, a target shaft, the sedimentation path, and additional accessories such as extension pipes, sediment trap and DOM sealing ring. The sedimentation path includes one or several main pipes in diameters 400, 500 or 600 with an installation length of 6 m each.

The lower flow separator preventing remobilisation of sediment is located in the sedimentation pipe. The total length of the sedimentation path depends on the system type and varies between 6 m and 12 m. The sedimentation path features a construction-related gradient when installed.



SediPipe level 600/12 with discharge into a surface waterbody or sewer
¹⁾Adjustable, depending on shaft cover, height, and number of support rings

- | | |
|--|---|
| ① Start shaft with maintenance console | ⑧ DOM sealing ring |
| ② Sedimentation path with flow separator | ⑨ Shaft cover CW 610 with ventilation openings |
| ③ Target shaft | ⑩ Concrete support ring (to be supplied on site) |
| ④ Immersion wall | ⑪ Bearing free from stationary loads (to be supplied on site) |
| ⑤ Extension pipe D _o 600 with inlet, project-specific | ⑫ Coupling(s) and sealing rings |
| ⑥ Extension pipe D _o 600 without inlet | |
| ⑦ Sediment trap D _o 600 | |

NB

Please refer to Section 3.4 Technical data for exact values for all lengths.

3.4 Technical data

SediPipe level	400/6	500/6	600/6	500/12	600/12
Length L [m]	6.20	6.20	6.20	12.20	12.20
Length L ₁ [m]	7.00	7.00	7.00	13.00	13.00
Diameter of the sedimentation path [mm]	400	500	600	500	600
Length of the sedimentation path [m]	6	6	6	12	12
Sedimentation path gradient [%]	4.2	4.2	4.0	2.1	2.0
Sedimentation path gradient as angle α	2.4	2.4	2.3	1.2	1.2
Collecting volume of light liquids [litres] ¹⁾	670	920	1,160	1,440	1,920
Collecting volume of the mud chamber [litres]	280	270	280	440	490
Mud level in the start shaft [cm]	31	21	17	21	17
Permanent water level volume [litres]	1,710	2,130	2,630	3,300	4,300
Sedimentation pipe material	PP	PP	PP	PP	PP
Material of start shaft and target shaft	PE	PE	PE	PE	PE

¹⁾ Retention of light liquids in case of spills

4 Installation

Installation directions: Depending on on-site conditions, installation of the system can begin either at the start shaft or at the target shaft:

Supply pipe available → begin at start shaft (continue with Section 4.1a)

Drainage pipe or storage/infiltration system available → begin at target shaft (continue with Section 4.1b)

4.1.a Overview of installation steps – starting with the start shaft

**1**

Installation start shaft
Section 4.5

**2**

Installation of sedimentation path
Section 4.6

**3**

Installation of target shaft
Section 4.7

**4**

Installation of extension pipes
Section 4.8

**5**

Installation of covers
Section 4.11

4.1.b Overview of installation steps – starting with the target shaft

**1****Installation of target shaft**

Section 4.5

**2****Installation of sedimentation path**

Section 4.6

**3****Installation start shaft**

Section 4.7

**4****Installation of extension pipes**

Section 4.8

**5****Installation of covers**

Section 4.11

4.2 Transport and construction site storage

The shaft base bodies (max. 50 kg/ piece) must be specifically prepared for transport and lifting. To do so, form a loop between the two openings using a wide hoisting sling.

If required, appropriate hoisting slings and chain slings can be fastened to this loop. The sedimentation and extension pipes can be moved for transport using two hoisting slings or round slings.



Transport using appropriate hoisting slings



Storage on sleepers

ATTENTION

Store all components on plain ground using sleepers and secure against shifting. Damaged parts must NOT be installed. Do NOT throw components!

4.3 Temporary construction site cover

The shaft base bodies are delivered without temporary construction site covers. Before filling, install the extension pipe which includes a factory-mounted temporary construction site cover. Make sure that no dirt, e.g., backfill material,

enters the system during the construction period. Do NOT remove the respective temporary construction site covers before installing shaft covers. Additionally protect shaft openings from earth slides until final installation of shaft covers.



Shaft without temporary construction site cover



Temporary construction site cover for extension pipes

ATTENTION

Shafts must NOT be accessed before installing the cover. If necessary, the required load transfer to the native soil must be ensured using a wide steel plate.

4.4 Excavating pit and creating embedding



In addition to the regulations of DIN EN 1610, observe the specifications of DIN 18300 "Earthworks" (*Erdarbeiten*) in the latest version regarding excavating the pit and creating the lower embedding for SediPipe level.

If the native soil is not made up of stoneless, compactable material G1 (GE, GW, GI, SE, SW, SI) or G2 (GU, GT, SU, ST), create an embedding according to DIN EN 1610. The embedding shall generally be created with a consistent degree of compaction of $D_{pr} \geq 95\%$ and a load-bearing capacity of $E_{v2} \geq 45 \text{ MN/m}^2$.

The minimum widths according to DIN EN 1610 must be strictly adhered to when creating pipe swales. Please observe any deviating minimum widths in the area of the shafts according to local specifications.

ATTENTION

The bearing heights of start and target shafts and the required height difference must be created according to design specifications (see 3.4 Technical data).

4.5 Installing the first shaft

Installation directions

Depending on on-site conditions, installation of the system can begin either at the start shaft or at the target shaft:

Supply pipe available;
→ begin at start shaft

Drainage pipe or storage/infiltration system available;
→ begin at target shaft

Place the shaft at the appropriate height on the prepared planum and secure it to prevent shifting. Connect supply pipe and drainage pipe according to design specifications. Make sure no backfill material enters the shaft (do NOT remove temporary construction site cover).



SediPipe level start shaft and target shaft

4.6 Installing the sedimentation path



1 Mount profile sealing rings into the first corrugation trough on each side while still outside the excavation pit. The pipe must be clean.



2 Move the sedimentation pipe to the installation position using lifting equipment. The crown marking must face upwards! The integrated flow separator faces downwards!



3 Keep the pipe, the sealing ring and the coupling clean. Then apply a sufficient amount of lubricant to the sealing ring and coupling. Make sure that the sealing area is free of dirt. Deepen the embedding in the area of the couplings as required. In order to prevent the profile sealing ring from resting on the bearing, the pipe end to be installed can rest on square timber.



ATTENTION

The crown marking of the pipe section must face upwards. The flow separators of the individual sedimentation pipes then form an overall consistently level surface. The crown markings of pipe and coupling must match exactly for all pipe installations.



4 Use a long lever to install the pipe. Place a board or square timber under the unattached pipe end to prevent damage to the pipe. Pipes must be installed horizontally. Mark the insertion depth on the pipe beforehand. Afterwards, create the pipe gradient by aligning the pipe. When completing the lower embedding by means of tamping, make sure that the bottom side of the pipes rests completely on the compacted foundation.

ATTENTION

Secure the pipes to prevent shifting during installation.

4.7 Installing the second shaft

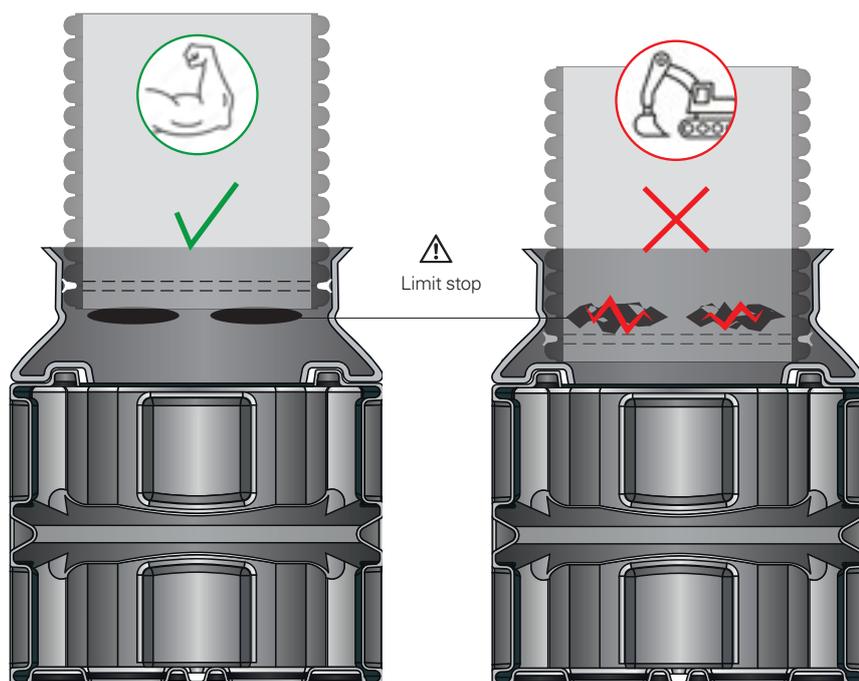


Place the second shaft at the appropriate height on the prepared planum. Afterwards, prepare the coupling connection and mount the shaft onto the sedimentation pipe. Connect supply pipe and drainage pipe according to design specifications (see Section 4.5).

4.8 Installing extension pipes

For the installation of the extension pipes, mount the profile sealing rings belonging to the start shaft and the target shaft onto the first corrugation trough of the extension pipe. Apply a sufficient amount of lubricant to the profile sealing ring and the coupling of the start shaft and the target shaft

(prevent the sealing area from getting dirty!). Afterwards, insert the extension pipe into the shaft cone or the coupling of the shaft up to the limit stop. Observe the supply direction at the start shaft while doing so. Connect the supply pipe to the extension pipe of the start shaft.



ATTENTION

Mount the sealing ring onto the first corrugation trough. Make sure that the extension pipe is only inserted up to the limit stop (use lubricant).

4.9 Tests before backfilling and impermeability test

Before backfilling the excavation pit, check the system for proper installation and leak-tightness.

The following tests must be performed in particular:

- 1 Height of the shafts according to design specifications
- 2 Exact adjustment of the shafts
- 3 Check for damage, foreign objects or coarse contamination
- 4 Axial direction of the system
- 5 Total insertion depth at the couplings
- 6 Position and matching of crown markings (top)
- 7 Impermeability test

NB

We recommend approval of the system by site management before backfilling.

4.10 Lateral and main backfilling

The specifications of the latest version of DIN EN 1610 must be adhered to when creating lateral and main backfilling. If country-specific regulations or deviating specifications conflict with this, these must be agreed upon with FRÄNKISCHE, if necessary. Only compactable materials which can be compacted by hand in layers are approved for lateral backfilling. Make sure that the bottom side of the

sedimentation pipes rests completely on the compacted foundation. Provide a soil cover of at least 30 cm for the sedimentation path.

The materials for main backfilling must be filled and compacted according to design specifications. Make sure that shafts and sedimentation pipes do not shift during backfilling of the excavation pit.



Compacting



Extension pipe with temporary construction site cover

ATTENTION

Do NOT remove temporary construction site covers before finishing main backfilling!

4.11 Installing shaft covers

Cut the extension pipe D_o 600 such that it reaches the support ring. The gap between the support ring and the shaft cover must be sealed using a DOM sealing ring. Mount the sealing ring onto the last corrugation of the extension pipe.

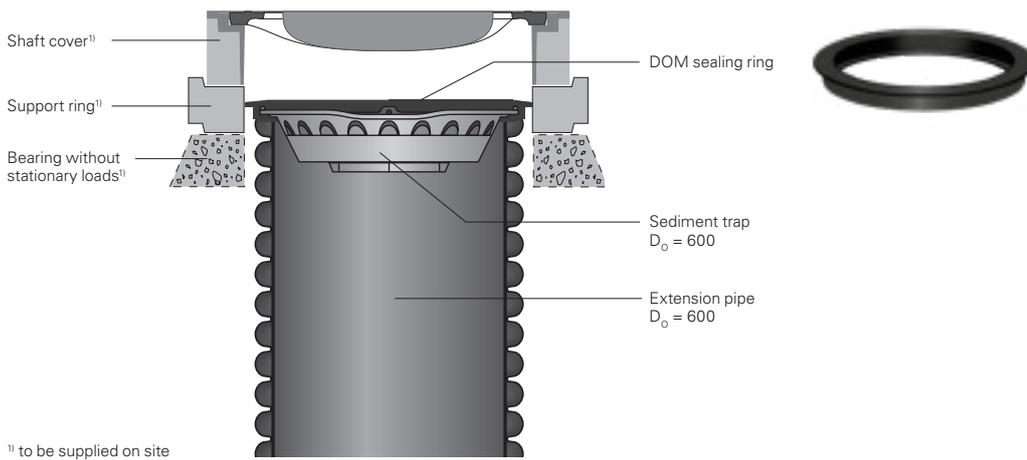
Place a sediment trap D_o 600 onto the extension pipe. If the start shaft must feature a gully gutter according to design specifications, a bucket handle (or feed hopper) and a bucket according to DIN 4052-A4 must be installed.

Shaft covers, concrete support rings, gully gutter, bucket handle and bucket are not included in the scope of delivery of FRÄNKISCHE and must be supplied on site. Install shaft covers according to DIN EN 124, CW 610, installation according to design specifications.

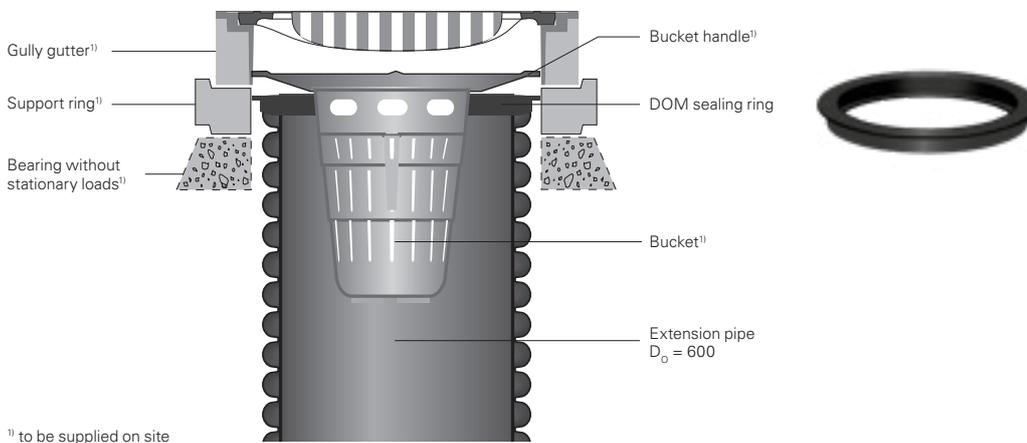
Put a support ring $h = 100$ mm according to DIN 4034 under the shaft cover/gully gutter on an appropriate bearing. Create the bearing from compacted bearing layer material (EV2 module ≥ 100 MN/m²) or in-situ concrete C 16/20.

Avoid interlocking of the bearing with the corrugations of the extension pipe (use casing aid!). Vertical loads may only be transferred to the load-bearing underground.

Shaft cover on start or target shaft



Optionally: gully gutter on start shaft



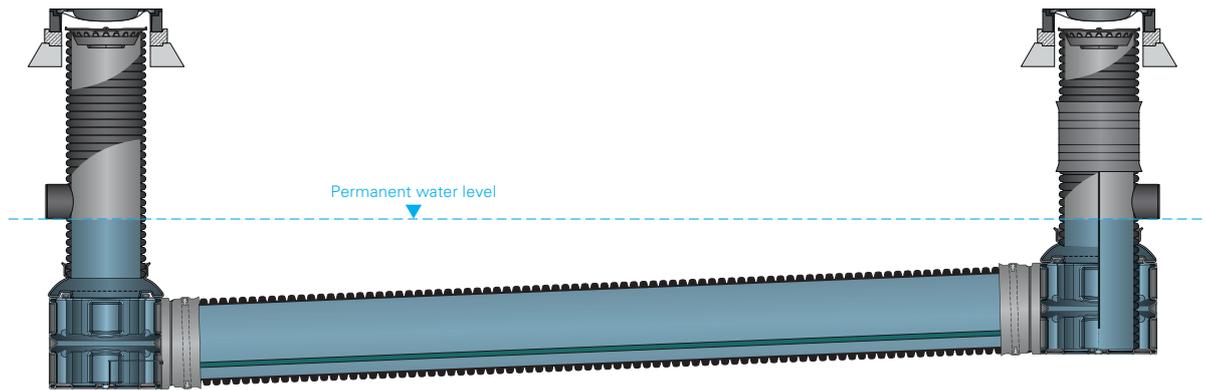
4.12 Filling the system

After the work has been completed, the system must be filled with water up to the permanent water level. This is required to ensure the retention of floatables and light liquids through the

immersion wall. The system must be filled with water (e.g., drinking water, service water, treated wastewater from system cleaning) complying with the local discharge conditions.

NB

For permanent water level volume, see Section 3.4 Technical data



Permanent water level SediPipe level

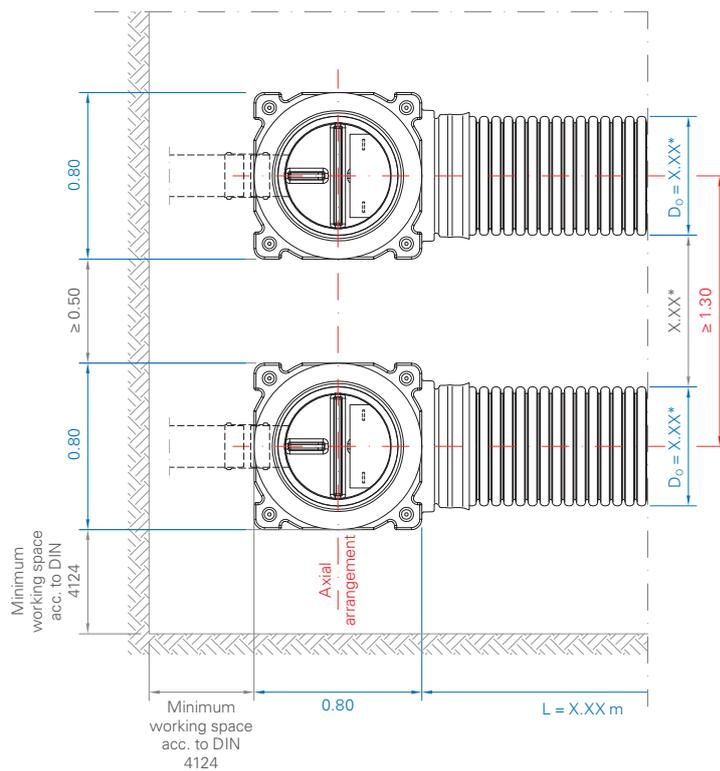
4.13 Arrangement of multiple SediPipe level systems

The above sections of the installation manual describe the standard installation as individual system. The following describes the recommendations for the arrangement of multiple systems and the required minimum distances. We draw your attention to the fact that for installation distances between distribution and combining units and treatment system, the respective fitting dimensions of the connection pipes and their space requirements must be considered for the installation in addition to the general minimum distances specified by standards. We recommend a minimum distance of 1.30 m or more referring to the shaft

centres for axial arrangements (Fig. 13.1). Please refer to the minimum distances and minimum centre distances according to table Fig. 13.2 for offset arrangements of shaft constructions (Fig. 13.2). If the recommended clearances for the respective installation situations are complied with, there is a breadth of working space of at least 0.5 m between the two shaft constructions or between the shaft construction and the sedimentation path. This is to ensure professional compaction between the system components using light compacting equipment.

NB

Make sure that the system components are not damaged during backfilling or compacting. Observe the installation instructions for individual systems.

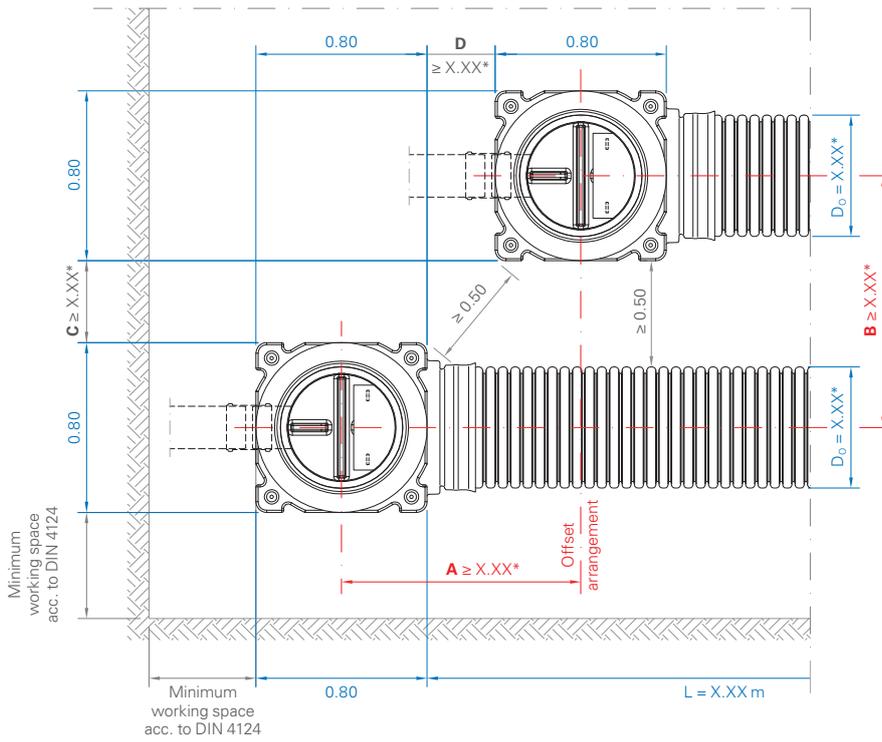


Caption

- Construction dimensions
- Min. spacing
- Min. axial dimension

* ... depending on the nominal diameter of the sedimentation pipe

Fig. 13.1: SediPipe level axial arrangement



Nominal diameter of the sedimentation pipe	Outside \varnothing of the sedimentation pipe	Min. spacing between axes A start shafts / target shafts	Min. spacing between axes B sedimentation pipes	Min. spacing C	Min. spacing D
DN 400	$D_o = 0.46 \text{ m}$	$\geq 1.18 \text{ m}$	$\geq 1.13 \text{ m}$	$\geq 0.33 \text{ m}$	$\geq 0.38 \text{ m}$
DN 500	$D_o = 0.57 \text{ m}$	$\geq 1.12 \text{ m}$	$\geq 1.19 \text{ m}$	$\geq 0.39 \text{ m}$	$\geq 0.32 \text{ m}$
DN 600	$D_o = 0.68 \text{ m}$	$\geq 1.03 \text{ m}$	$\geq 1.24 \text{ m}$	$\geq 0.44 \text{ m}$	$\geq 0.23 \text{ m}$

Fig. 13.2 SediPipe level offset arrangement

4.14 Putting into operation

ATTENTION

Observe Chapter 8 Safety instructions!

1 Making system ready for operation

- Clean system of coarse dirt
- Remove auxiliary constructions
- Fill system with water
- Close shaft covers



2 Instruction

1. The following people should be present during handover:

- Persons authorised by the principal to perform the acceptance
- Planner/engineering office
- Construction contractor
- Specialist/expert

We also recommend participation of operating staff.



2. Instruction

- Explain function of the system
- Explain maintenance
- Information regarding cleaning and disposal
- Information about FRÄNKISCHE partner companies



3 Documentation/handover

- Handover of maintenance and installation manuals
- Handover of system documentation including operating log
- Optionally: documentation of thorough visual inspection
- Proof of system leak-tightness



5 Cleaning

5.1 Emptying and cleaning the system

All the emptying and cleaning work of the system described in this section must generally be made from the start shaft.

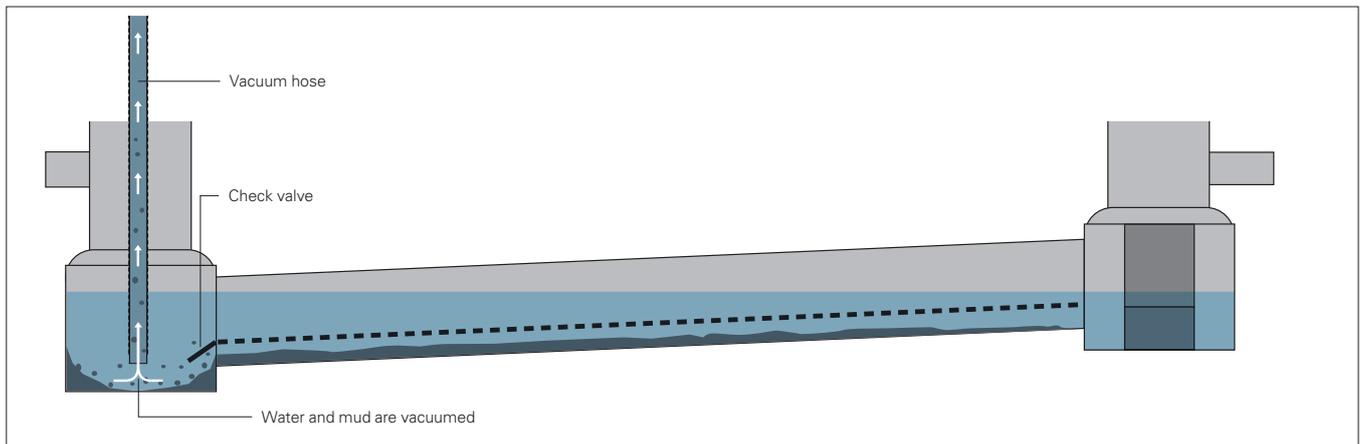
Use a high-pressure cleaning/vacuum vehicle to empty the system and remove the contained water and mud fractions. To do so, initially vacuum the

complete contents through the start shaft. The check valve sealing the sedimentation chamber of the sedimentation pipe can now be moved freely. Due to the upward gradient of the sedimentation pipe, most of its mud collector will be emptied of its contents into the start shaft.

ATTENTION

In the event of an oil spill, the system must be immediately maintained by a specialist and the washed matter must be disposed of appropriately! Otherwise, subsequent rain may lead to a discharge of light liquids!

Step 1: Emptying with vacuum hose



When empty, the maintenance console mounted at the height of the flow separator is visible in the start shaft. The maintenance console facilitates inserting and guiding the flush hose during high-pressure cleaning.

The flush hose is guided through the maintenance console on the flow separator. The cleaning nozzle is guided up to the target shaft during high-pressure cleaning. Make sure that the nozzle

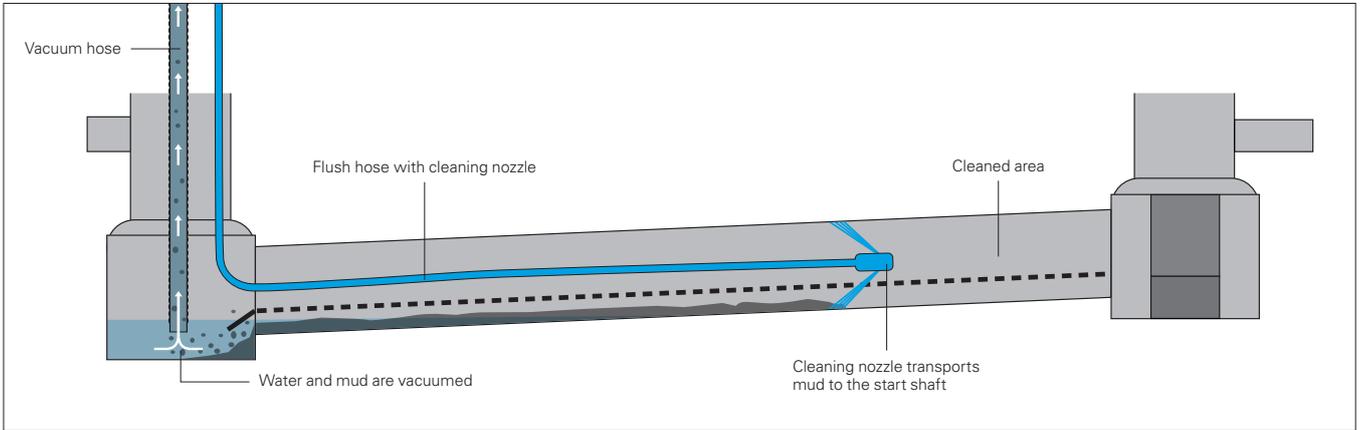
does not enter the target shaft. The efficiency of the vehicle and the cleaning and nozzle parameters must be selected depending on the pipe section, pipe material and degree of pollution to be expected.

Use deflection pulleys to avoid damage to the system.

Tip

Combined flushing-vacuum vehicles with water recovery should be used preferably. This minimises disposal expenses and the treated water can be used to refill the system.

Step 2: Cleaning with vacuum and flush hose



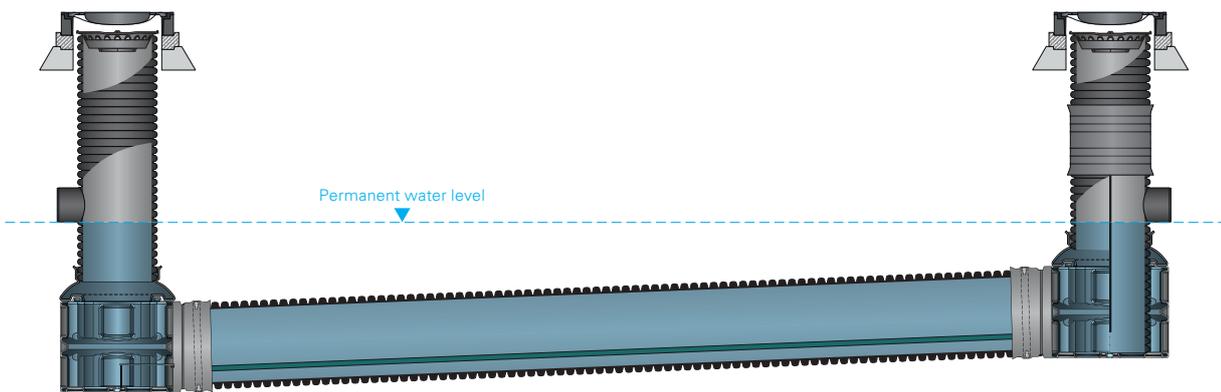
5.2 Filling the system with water

After the work has been completed, the system must be filled with water up to the permanent water level. This is required to ensure the retention of floatables and light liquids by the immersion wall.

The system must be filled with water (e.g., drinking water, service water, treated wastewater from system cleaning) complying with the local discharge conditions.

NB

For permanent water level volume, see Section 3.4 Technical data



Permanent water level SediPipe level

6 Self-inspection and maintenance

6.1 General information

To ensure functionality of the SediPipe level system, its condition must be ensured through recurring self-inspections and maintenance. All work and findings must be documented in the operating log. We generally recommend entering a

maintenance agreement with a specialist company (FRÄNKISCHE partner company). Please see www.fraenkische.com for an overview of partner companies trained by FRÄNKISCHE.

ATTENTION

The respective periods and responsibilities are only a recommendation by FRÄNKISCHE and may differ from authority approvals. In these cases, the authorities' requirements are mandatory and must be observed!

6.2 Self-inspection

The operational capability of the system must be verified by the operator under dry weather conditions at least every three months. To do so, open the covers of the start shafts and target shafts and visually inspect from the top without accessing the shafts themselves (simple visual inspection).

Check the following:

- Structural condition of the system
- Height of the permanent water level
- Mud level of the start shaft (see tip under Section 6.3)

ATTENTION

In the event of relevant deviations from the target condition that affect the operational capability of the system, maintenance must be brought forward and the deficiencies detected must be rectified immediately.

6.3 Maintenance

Until there are no system-specific empirical values regarding the actual volume of mud, the SediPipe system must be maintained according to the following guiding values and consists exclusively of cleaning.

Check the following:

- Emptying and cleaning of the system (see 5.1)
- Refilling the system (see 5.2)

System type	Maintenance interval 1 year	Maintenance interval 2 years	Maintenance interval 3 years	Maintenance interval 4 years
	Connectable area [m ²]			
SediPipe level 400/6	7,800	3900	2,600	1,950
SediPipe level 500/6	7,550	3,750	2,500	1,850
SediPipe level 600/6	7,950	3,950	2,650	1,950
SediPipe level 500/12	12,250	6,100	4,050	3,050
SediPipe level 600/12	13,700	6,850	4,550	3,400

Basis average volume of pollution 500 kg/ha*a (dry matter)

Tip

Operators can schedule the system-specific maintenance interval as described in the following to reduce operating costs or in case of special areas with increased mud volumes:

Provided that the complete system was cleaned after finishing construction, emptying and cleaning of SediPipe can take place depending on the mud level. To do so, measure the mud level in the start shaft during self-inspection.

We recommend emptying when 80 % of the mud storage volume or the maximum mud level in the start shaft have been reached. The storage volume can be obtained from the table (see Section 3.4).

6.4 Disposal

Materials removed from the system such as mud and flushing water used to clean the system may contain hydrocarbons and heavy metals. Therefore, they must be disposed of in compliance with the applicable legal provisions. Waste fractions occurring after spills with light liquids

must be disposed of professionally as "oil/water separator contents" in compliance with the current waste catalogue. The statutory disposal and acceptance certificates must be included in the operating log together with the entries as evidence of proper disposal.

ATTENTION

Applicable waste disposal regulations must be observed when disposing of the matter extracted from the system.

6.5 Thorough visual inspection

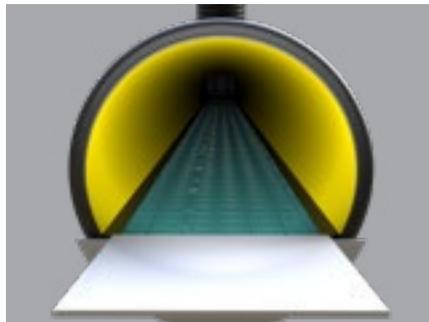
The structural condition of the sedimentation path can be examined by thorough visual inspection using CCTV inspection technology. For this purpose, the upper flow area is accessed with a state-of-the-art pan and tilt camera. The lower sedimentation chamber can be inspected

visually through the flow separator. Here, the maintenance console facilitates inserting the dolly and guiding the camera cable. Use appropriate deflection pulleys. Inspection equipment should be selected according to DWA worksheet and bulletin series DWA-A/M 149 "Conditions and

Assessment of Drain and Sewer Systems Outside Buildings" (*Zustandserfassung und -beurteilung von Entwässerungssystemen außerhalb von Gebäuden*) and should be adjusted to pipe section and pipe material.



Inspection of flushing results with pan and tilt camera, camera on the maintenance console in the start shaft of a SediPipe level system



Maintenance console = top edge of flow separator



Cleaned, residue-free system; the area of the flow separator is displayed here.

7 Overview - Who does what?

	Who	What	When	Documentation
Installation	Specialist	<ul style="list-style-type: none"> ■ Installation, cleaning and CCTV inspection of the system ■ Filling the system with water from water recovery or with water complying with the local discharge conditions 		Operating log
Self-inspection	Operator	<p>Simple visual inspection</p> <ul style="list-style-type: none"> ■ Structural condition of the system ■ Height of the permanent water level ■ Mud level of the start shaft 	At least every 3 months	Operating log
Maintenance	Specialist	<ul style="list-style-type: none"> ■ Emptying and cleaning of the entire system using a sewer cleaning vehicle ■ Refilling the system with water from water recovery or with water complying with the local discharge conditions ■ Disposal of mud and solids ■ Applicable waste disposal regulations must be observed. 	Immediately after oil spill, otherwise, see guiding values in the maintenance documentation	Operating log
Disposal	Specialist/waste disposal company	<ul style="list-style-type: none"> ■ Disposal of mud and solids ■ Applicable waste disposal regulations must be observed. 	When the retention volume has been used up.	Operating log Disposal certificates
Repairs	Specialist	Original parts or tailored parts explicitly approved by the manufacturer may be used only.	As required	Operating log

8 Safety instructions

ATTENTION

Staff responsible for installation, assembly, operation, maintenance and repair must have appropriate qualifications required for this kind of work. The builder is responsible for organising in detail authority, responsibility and supervision of staff.

The operational safety of the system components supplied is only guaranteed in case of proper installation and correct use. Technical threshold values must not be exceeded.

Observe the accident prevention regulations and relevant standards and directives for installation, fitting, operation, maintenance and repair of systems, pipes and shafts!

This includes (in extracts):

- Accident prevention regulations
 - Construction work BGV C22 (*Bauarbeiten BGV C22*)
 - Technical wastewater systems GUV-V C5 (*Abwassertechnische Anlagen GUV-V C5*)
- Safety regulations for working in enclosed spaces of technical wastewater systems GUV-R 126 (*Sicherheitsregeln für Arbeiten in umschlossenen Räumen von abwassertechnischen Anlagen GUV-R 126*)
- Handling biological working materials in technical wastewater systems GUV-R 145 (*Umgang mit biologischen Arbeitsstoffen in abwassertechnischen Anlagen GUV-R 145*)
- Directives for working in tanks and narrow spaces BGR 117 (*Richtlinien für Arbeiten in Behältern und engen Räumen BGR 117*)
- Standards
 - Excavations and trenches – Slopes, planking and strutting, breadths of working spaces DIN 4124 (*Baugruben und Gräben-Böschungen, Verbau, Arbeitsraumbreiten*)
 - Construction and testing of drains and sewers DIN EN 1610 (*Verlegung und Prüfung von Abwasserleitungen und -kanälen*)
- Tool for safety and health protection in technical wastewater systems

WARNING

- Hazards from gases and vapours such as risk of suffocation, risk of poisoning and risk of explosion
- Risk of falling
- Risk of drowning
- Germ pollution and wastewater with sewage
- High physical and psychological stress during work in deep, narrow and dark spaces
- And others

DANGER

Non-compliance with the operating manual may result in considerable property damage, injury or death.

CAUTION

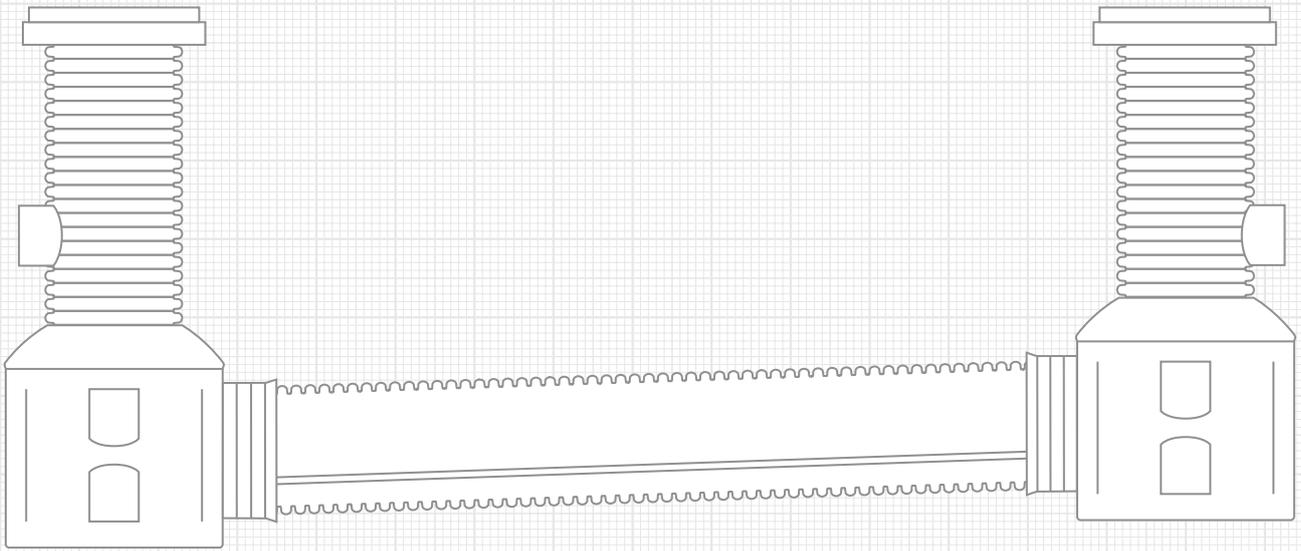
The systems, pipes and shafts are part of an entire network. During installation, maintenance, service, and repair work on one component, always consider the entire system. Avoid work during rain.

Changes or modifications may only be carried out with the agreement of the manufacturer. For safety reasons, use original spare parts and accessories approved by the manufacturer. The use of other parts voids the liability for any consequences arising therefrom.

General information on using our products and systems:

Information about or assessments of the use and installation of our products and systems is exclusively provided on the basis of the information submitted. We do not assume any liability for damage caused by incomplete information. If the actual situation deviates from the planned situation, or if a new situation occurs, or if different or new installation techniques are applied, these must be agreed upon with FRÄNKISCHE, since these situations or techniques may lead to different conclusions. Notwithstanding the above, the customer is solely responsible for verifying the suitability of our products and systems for the intended purpose. In addition, we do not assume any liability or responsibility for system characteristics and system functionalities when third-party products or accessories are used in combination with FRÄNKISCHE systems. We only assume liability if original FRÄNKISCHE products are used. For use in other countries than Germany, country-specific standards and regulations must also be observed.

All information provided in this publication is generally up to date at the time of printing. Moreover, this publication was prepared with the greatest possible care. However, we cannot rule out printing errors or translation mistakes. Furthermore, we reserve the right to change products, specifications and other information, or changes may be necessary due to legal, material or other technical requirements, which no longer could be considered for this publication. For this reason, we are unable to accept any liability if this is based solely on the information contained in this publication. Instrumental in connection with information about products or services are always the purchase order, the concrete product purchased and the related documentation or the information provided by our specialist staff in the specific case.



FRÄNKISCHE

FRÄNKISCHE Rohrwerke Gebr. Kirchner GmbH & Co. KG | Hellinger Str. 1 | 97486 Königsberg/Germany
Phone +49 9525 88-0 | Fax +49 9525 88-155 | marketing@fraenkische.de | www.fraenkische.com

EN.90007/2.06.23 | Subject to change without notice | Cat. no. 5000-1675-00 | 06/2023 [DE.90120/3]

